

**SANTA BARBARA COUNTY**

**Site name:** Vandenberg State Marine Reserve

**Year established:** 1994

**Approximate Area:** 2.0 nm<sup>2</sup>

**Approximate Shoreline length:** 4.5 nm

**Approximate Depth range (feet):** 0 to 60

**Habitat types:** The area contains a mixture of hard and soft bottom. This is a high energy area that is likely heavily scoured.

**Surrounding habitat types:** Fairly similar to the north, south, and offshore, although a higher percentage of soft bottom to the north.

**Summary of existing regulations:** No take is allowed. No disturbance of bottom; no boats, diving or other use (boat transit only); public entry restricted. In offshore area outside boundaries a recent ban on gill nets was enacted legislatively.

**Primary objectives:** To satisfy requirements of the Marine Resources Protection Act of 1990 the Fish and Game Commission was required to establish four ecological reserves along the mainland coast. The Vandenberg State Marine Reserve (originally named the Vandenberg Marine Resources Protection Act Ecological Reserve) was one of the reserves established pursuant to the Act. The Act specified that the specific purpose of these reserves was "to provide for scientific research related to the management and enhancement of marine resources".

**Existing enforcement:** Access from land is restricted via Vandenberg Air Force Base security restrictions. This is a very remote location that is publicly inaccessible from land and sea.

**Baseline and ongoing monitoring and research studies:**

Benthic habitat mapping (Cochrane USGS). Mapping ocean currents and related hydrographic studies: ongoing research (Russ Vetter, NMFS). Eggs and larval fish surveys: research (Vetter, NMFS). Abalone enhancement, growth studies (Friedman, Haaker). Intertidal invertebrate surveys (PISCO-Pete Raimondi, UCSC; Steve Murray). Evaluation of effects of oil spill on intertidal (Pete Raimondi, UCSC; Andy Lisner, MMS). Some baseline data on fish abundance in the adjacent Purisima Point area exists from a Department research cruise in 1998.

**Basic Evaluation:** This site contains primarily shallow soft-bottom substrate but includes some low-relief subtidal reef. Based on Department surveys in the late 1990s, the site and the immediately adjacent area appear to function well in protecting high population densities of black abalone. The adjacent area, while not within an MPA, benefits from military-imposed restricted access. No other sites along the southern California mainland contain high densities of black abalone. An existing military closure near the area (Safety Zone 4) is enforced as a no-stopping area by the Air Force.

**Unpublished references related to effectiveness of this MPA:** 55

**Published references related to use of this MPA as a research tool:** 56, 205

## CHANNEL ISLANDS MPAs MONITORING EFFORTS

The Department of Fish and Game has developed a detailed monitoring plan for the Channel Islands MPAs. These MPAs were established in 2003 and the area has a wealth of existing and ongoing monitoring. The Monitoring Plan and a detailed summary of existing monitoring programs are available on the web at:

[http://www.dfg.ca.gov/mrd/channel\\_islands/monitoring.html](http://www.dfg.ca.gov/mrd/channel_islands/monitoring.html)

**Baseline and ongoing monitoring and research studies:** The following summary provides some background on ongoing activities that will help determine the effectiveness of these new MPAs.

The Channel Islands National Marine Sanctuary has been conducting aerial surveys of giant kelp along the entire shoreline of the Sanctuary on a quarterly basis since August 1999.

Channel Islands National Park has 16 fixed sites for the Kelp Forest Monitoring program, (est. 1982) and several Rocky Intertidal Monitoring sites (est. 1982, expanded 1985 for black abalone) at the islands. The Channel Islands National Marine Sanctuary has been conducting aerial surveys of giant kelp along the entire shoreline of the Sanctuary on a quarterly basis since August 1999.

The Reef Environmental Education Foundation has used volunteer divers since 1997 to collect information on the abundance and distribution of marine fishes at four sites within this MPA. The Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) has established a permanent site for a comprehensive, long-term monitoring study which focuses on recruitment and community structure of ca. 30 invertebrate and 10 fish species. In 2003 existing subtidal monitoring efforts were greatly increased to include study sites both inside and outside all Channel Islands MPAs.

From 1995 to 2000, the Marine Science Institute collected data at one site within the MPA, using midwater trawls, on pelagic fish and invertebrate assemblages, with a focus on rockfishes.

California Cooperative Oceanic Fishery Investigations (CalFOFI) has sites in and around the area that have been sampled since 1951. Sampling has varied from monthly to every three years and at present occurs annually. At each station a whole suite of physical and chemical measurements are made to characterize the environment; standard tows are conducted for phytoplankton, zooplankton, fish eggs, and fish larvae.

In 1998 and 2003 the Channel Islands National Marine Sanctuary collected data on the chemical composition of marine sediments, contaminant loads in marine fishes and invertebrates, and relative abundance of fish and invertebrate assemblages in a program called "Bight '98".

Humboldt State University has been monitoring population trends of the double-crested cormorant and Brandt's cormorant since 1991; the study will terminate in 2003. Annually since 1985, between March and September, the Channel Islands National Park has monitored the population dynamics of nine species of seabirds.

Since 1987, the National Marine Fisheries Service has conducted aerial photographic surveys to follow population trends of the California sea lion, Stellar sea lion, harbor seal, northern fur seal, and northern elephant seal.

Annually since 1968, the National Marine Mammal Laboratory of the Alaska fisheries Service Center (NMFS) has been monitoring the population dynamics of five species of pinnipeds (northern elephant seal, harbor seal, Guadalupe fur seal, northern fur seal, and California sea lion). Annually since 1982, the Department of Fish and Game has conducted one or two aerial surveys to estimate harbor seal abundance. Since 1986, Cascadia Research has been photographing blue and humpback whales from small boats and using suction cup tags to study population trends, movement, and stock structure. The Channel Islands National Marine Sanctuary and the Channel Islands National Park have developed an interpretive program called the Naturalist Corps, using trained volunteers to educate the public on excursion tours and to record sightings of marine mammals.

In 1997 the Channel Islands National Marine Sanctuary began weekly monitoring of whales and dolphins in relation to vessel traffic; the program is called the Sanctuary Aerial Monitoring Spatial Analysis Program (SAMSAP).

In 1997 the Channel Islands National Marine Sanctuary began a remote sensing program using orbital platforms, aerial transects, and opportunistic ROV tracks to monitor sea surface temperature, shoreline dynamics, and nearshore habitat.

The U.S. Geological Survey's Coastal and Marine Geology Program has mapped portions of the MPA using side scan sonar to depths of 100 m.

Deepwater submersible surveys have been conducted annually since 1995 at San Miguel Island and Santa Barbara Island by researchers at the Marine Science Institute of UC Santa Barbara. Fishes and macroinvertebrates are identified and quantified along with temperature, depth, and substrate.

A comprehensive ROV Survey of deeper habitats and species assemblages was completed in 2004 by the Department of Fish and Game.

**Site name:** Richardson Rock (San Miguel Island) State Marine Reserve

**Year established:** 2003

**Approximate Area:** 32.2nm<sup>2</sup>

**Approximate Shoreline length:** not applicable

**Depth range (feet):** 0 to 360

**Habitat types:** Richardson Rock is the most remote exposed offshore pinnacle in the region. The SMR contains only a few emergent offshore rocks with the majority of habitat underlying open water subject to the influence of seasonal upwelling. Subtidal habitat is mixed sand and rock. The area supports numerous cold-water fish and invertebrate species.

**Surrounding habitat types:** Surrounding habitats are deep rock and soft bottom with a similar high relief reef to the east at Wilson Rock.

**Summary of existing regulations:** No take is allowed.

**Primary objectives:** A state marine reserve by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park island rangers are present on San Miguel Island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:**

This is a recently established marine protected area. Refer to above review of baseline and ongoing monitoring and research studies.

**Site name:** Judith Rock (San Miguel Island) State Marine Reserve

**Year established:** 2003

**Approximate Area:** 5.1 nm<sup>2</sup> **Approximate Shoreline length:** 1.4 nm

**Depth range (feet):** 0 to 420

**Habitat types:** Shoreline from Adams Cove to Judith Rock is mixed rock and sand with moderate to high exposure. Sandy beaches are present near Point Bennett. Rocky intertidal habitat is very rich and diverse. Subtidal habitat is mixed rock and sand with moderate relief. Rocky reefs, with viable populations of red abalone and urchins, are interspersed with sand channels. Giant kelp populations between Adams Cove and Judith Rock are healthy and stable. The brown algae *Laminaria* is found in deeper waters, with patches of surfgrass occurring in shallow subtidal areas.

**Surrounding habitat types:** Similar habitats are found just to the east and west of this MPA. Farther east and offshore are scattered rock shelves and soft bottom.

**Summary of existing regulations:** No take is allowed.

**Primary objectives:** A state marine reserve by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park island rangers are present on the island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:**

This is a recently established marine protected area. Refer to above review of baseline and ongoing monitoring and research studies.

**Site name:** Harris Point (San Miguel Island) State Marine Reserve

**Year established:** 2003

**Approximate Area:** 18.2 nm<sup>2</sup>

**Approximate Shoreline length:** 6.3 nm

**Depth range (feet):** 0 to 300

**Habitat types:** Exposed sandy beaches cover the shore from the marker poles in Simonton Cove to Harris Point. Subtidal habitat off Simonton Cove is mostly sand with a few offshore reefs. From Harris Point to Bat Rock the shoreline is predominantly exposed rocky habitat with a few sandy coves; the rocky habitat once supported populations of black abalone. Subtidal habitat from Harris Point to Bat Rock is expansive rocky bottom, dominated by urchins, with a few high relief rocks and pinnacles. Giant kelp persists around Bat rock and inside of Harris Point.

The shoreline of Prince Island is rocky and exposed. The intertidal area descends quickly to rocky subtidal habitat, with persistent populations of giant kelp and surfgrass.

**Surrounding habitat types:** Habitats to the west include similar sand areas within the rest of Simonton Cove. Offshore a high relief rocky reef lies just to the west of the MPA. To the east habitats are primarily soft bottom farther offshore.

**Summary of existing regulations:** No take is allowed.

An exemption in the MPA, where commercial and recreational take of living marine resources is allowed, exists between the mean high tide line in Cuyler Harbor and a line between the following points:

34° 03.5' N. lat. 120° 21.3' W. long.;

34° 02.9' N. lat. 120° 20.2' W. long.

Special Regulations to protect marine mammals:

Boating is permitted at San Miguel Island except west of a line drawn between Judith Rock and Castle Rock where boats are prohibited closer than 300 yards from shore.

Boats may be anchored overnight only at Tyler Bight and Cuyler Harbor. Boats traveling within 300 yards of shoreline or anchorages shall operate with a minimum amount of noise and shall not exceed speeds of five miles per hour.

Landing is allowed on San Miguel Island by permit only at the designated landing beach in Cuyler Harbor. No person shall have access to all other offshore rocks and islands in the MPA.

1. Notwithstanding the 300-yard boating closure between Judith Rock and Castle Rock, the following shall apply:
  - a. Boats may approach San Miguel Island no nearer than 100 yards from shore during the period(s) from March 15 through April 30, and October 1 through December 15; and
  - b. Boats operated by commercial sea urchin boat operators who have been issued permits by the department to take sea urchins from the Point Bennett area of San Miguel Island may enter any waters of the 300-yard area between Judith Rock and Castle Rock for the purpose of fishing sea urchins during the period(s) March 15 through April 30, and October 1 through December 15.

2. The department may rescind permission for boats to enter waters within 300 yards between Judith Rock and Castle Rock upon finding that impairment to the island marine mammal resource is imminent. Immediately following such closure, the department will request the commission to hear, at its regularly scheduled meeting, presentation of documentation supporting the need for such closure.

**Primary objectives:** A state marine reserve by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park island rangers are present on the island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:** This is a recently established marine protected area. Refer to above review of baseline and ongoing monitoring and research studies.

**Site name:** South Point (Santa Rosa Island) State Marine Reserve

**Year established:** 2003

**Approximate Area:** 10.8 nm<sup>2</sup>

**Approximate Shoreline length:** 3.8 nm

**Depth range (feet):** 0 to 1,200

**Habitat types:** Moderately exposed, rocky coastline and intertidal area interspersed with isolated sandy coves and alleys. Subtidal habitat is mixed rocky reef, containing numerous crevices, with sand. Giant kelp populations are healthy and stable. Rocky subtidal areas support a variety of macroalgae species. Surfgrass occurs subtidally around South Point and patches of eelgrass occur in Johnson's Lee. Rocky intertidal once supported populations of black abalone, and rocky subtidal contains remnant populations of red and black abalone. The nearshore shelf drops off to sandy plateaus at about 70 feet. Two deeper reefs occur at South Point, at 90 feet and 120 feet.

**Surrounding habitat types:** Johnson's Lee includes shallow reef and sand habitats. To the west habitats are more similar to the western edge of this MPA, with mixed rocky reef and sand.

**Summary of existing regulations:** No take is allowed.

**Primary objectives:** A state marine reserve by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park island rangers are present on the island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:**

This is a recently established marine protected area. Refer to above review of baseline and ongoing monitoring and research studies.



**Site name:** Carrington Point (Santa Rosa Island) State Marine Reserve

**Year established:** 2003

**Approximate Area:** 13.3 nm<sup>2</sup>

**Approximate Shoreline length:** 5.3 nm

**Depth range (feet):** 0 to 180

**Habitat types:** Rocky exposed shoreline around Carrington Point, providing excellent habitat for seabirds. Rocky shoreline interspersed with protected sand beaches from Carrington Point to Bechers Bay. Rocky intertidal area dominated by urchins around Carrington Point, and by red and brown algae in Bechers Bay. Sand patches occur intermittently in the intertidal area. Subtidal habitat is comprised of low relief rocky reefs mixed with sand. Rocky subtidal habitat is found primarily around Carrington Point, Beacon Reef and Rhodes Reef. The former area supports unstable populations of giant kelp. Historically the area supported a large black abalone population. The area southeast of Carrington Point supports patchy populations of surfgrass, and a productive eel grass bed occurs in Bechers Bay.

**Surrounding habitat types:** Similar habitat is found at Rhodes Reef to the west and within Bechers Bay just south of the pier.

**Summary of existing regulations:** No take is allowed.

**Primary objectives:** A state marine reserve by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park island rangers are present on the island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:**

This is a recently established marine protected area. Refer to above review of baseline and ongoing monitoring and research studies.

**Site name:** Skunk Point (Santa Rosa Island) State Marine Reserve

**Year established:** 2003

**Approximate Area:** 1.4 nm<sup>2</sup>

**Approximate Shoreline length:** 2.7 nm

**Depth range (feet):** 0 to 60

**Habitat types:** Onshore, the region between Skunk Point and Abalone Point contains the only lagoon in the northern Channel Islands. Shoreline is sandy from Skunk Point to Abalone rocks. Shale ridges form scattered rocky reefs subtidally separated by large patches of sand. Persistent populations of giant kelp occur in rocky subtidal habitat between Abalone and East Points. Extensive populations of surfgrass occur south of Skunk Point toward East Point. South of Abalone Rocks, the subtidal habitat is mostly hard bottom. Rocky reefs support dense and stable populations of red urchins.

**Surrounding habitat types:** This shallow surfgrass habitat is unique in the immediate area. Surrounding habitats include shallow rock reef and soft bottom habitats farther offshore.

**Summary of existing regulations:** No take is allowed.

**Primary objectives:** A state marine reserve by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park island rangers are present on the island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:**

This is a recently established marine protected area. Refer to above review of baseline and ongoing monitoring and research studies.

**Site name:** Painted Cave (Santa Cruz Island) State Marine Conservation Area

**Year established:** 2003

**Approximate Area:** 2.1 nm<sup>2</sup>

**Approximate Shoreline length:** 2.0 nm

**Depth range (feet):** 0 to 300

**Habitat types:** Painted Cave is reputedly the largest sea cave off the coast of North America. Rocky cliffs around the cave drop sharply into the ocean. The intertidal zone is narrow, characterized by steep rocky walls descending into the subtidal. Bottom habitat is primarily sand and cobble.

**Surrounding habitat types:** Similar habitats are found to the east and west with multiple small sea caves. Offshore habitats are primarily sand and cobble.

**Summary of existing regulations:** No take of living, geological, or cultural resources is allowed except for the recreational take of spiny lobster (*Panulirus interruptus*) and pelagic finfish<sup>1</sup>,

<sup>1</sup>Pelagic Finfish are defined as: northern anchovy (*Engraulis mordax*), barracudas (*Sphyraena sp.*), billfishes\*\* (family Istiophoridae), dolphinfish (*Coryphaena hippurus*), Pacific herring (*Clupea pallasii*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), salmon (*Oncorhynchus spp.*), Pacific sardine (*Sardinops sagax*), blue shark (*Prionace glauca*), salmon shark (*Lamna ditropis*), shortfin mako shark (*Isurus oxyrinchus*), thresher sharks (*Alopias spp.*), swordfish (*Xiphias gladius*), tunas (family Scombridae), and yellowtail (*Seriola lalandi*). \*\*Marlin is not allowed for commercial take.

**Primary objectives:** A state marine conservation area by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems;
5. Preserve outstanding or unique geological features;
6. Provide for sustainable living marine resource harvest.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park island rangers are present on the island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:**

This is a recently established marine protected area. Refer to above review of baseline and ongoing monitoring and research studies.

**Site name:** Gull Island (Santa Cruz Island) State Marine Reserve

**Year established:** 2003

**Approximate Area:** 16.1 nm<sup>2</sup>

**Approximate Shoreline length:** 2.9 nm

**Depth range (feet):** 0 to 1,800

**Habitat types:** Predominant habitat along shore is sand beach, interspersed with cobble areas. Subtidal habitat is a mixture of sand and rocky reefs. Red and green algae dominate inshore areas. Kelp beds occur intermittently but are reduced from historic dimensions. Subtidal habitats once supported populations of red, pink, white, and black abalone. Rocky subtidal habitats are now dominated by urchins. Purple hydrocoral occurs on deeper rocky reefs. The shallow rocky habitat extends offshore to Gull Island. The SMR contains offshore emergent rocks, including Gull Island, which are excellent habitats for seabirds.

**Surrounding habitat types:** The habitat immediately surrounding Gull Island itself is fairly unique, high relief, not found elsewhere. Outside this MPA habitats are more similar to the areas inshore of Gull Island with sand beach, cobble, and rocky headlands.

**Summary of existing regulations:** No take is allowed.

**Primary objectives:** A state marine reserve by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park island rangers are present on the island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:** This is a recently established marine protected area. Fish populations in the vicinity of Gull Island are likely to respond to protection with increased density, individual size, and reproductive potential. In addition, refer to above review of baseline and ongoing monitoring and research studies.

**Site name:** Scorpion (Santa Cruz Island) State Marine Reserve

**Year established:** 2003

**Approximate Area:** 10.3 nm<sup>2</sup>

**Approximate Shoreline length:** 3.3 nm

**Depth range (feet):** 0 to 750

**Habitat types:** Rocky shoreline extends from Cavern Point to Potato Harbor. A small sandy beach occurs at Scorpion Anchorage. Emergent nearshore rocks and caves provide breeding and roosting sites for seabirds. Intertidal area is primarily rocky with some mixed sand and gravel beaches. Subtidal habitats are mixed sand and gravel with a few patchy, terraced reefs off Cavern Point. Eelgrass occurs in shallow sand and mud habitats, and feather boa kelp and surfgrass occur in shallow subtidal rocky areas. Giant kelp occurs but populations are unstable; rocky subtidal habitats are dominated by urchins. Some pinnacles and high relief rocky features are associated with caves and submerged rocky cliffs. Some pinnacles occur in deeper water.

**Surrounding habitat types:** Similar rocks, caves and cliffs are found immediately to the east and west. Deeper water substrate is primarily soft.

**Summary of existing regulations:** No take is allowed.

**Primary objectives:** A state marine reserve by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park island rangers are present on the island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:** This is a recently established marine protected area. Refer to above review of baseline and ongoing monitoring and research studies.

**Site name:** Refugio State Marine Conservation Area

**Year established:** 1998

**Approximate Area:** 0.93nm<sup>2</sup>

**Approximate Shoreline length:** 2.26 nm

**Approximate Depth range (feet):** 0 - 120

**Habitat types:** Low and mid-relief reefs in the inshore portion interspersed with sandy areas.

**Surrounding habitat types:** Similar to that in the site.

**Summary of existing regulations:**

Only the following species may be taken recreationally: finfish, chiones, clams, cockles, rock scallops, native oysters, crabs, lobsters, ghost shrimp, sea urchins, mussels and marine worms except that no worms may be taken in any mussel bed unless taken incidentally to the take of mussels.

Only the following species may be taken commercially: finfish, crabs, ghost shrimp, jackknife clams, sea urchins, kelp, squid and worms except that no worms may be taken in any mussel bed, nor may any person pick up, remove, detach from the substrate any other organisms, or break up, move or destroy any rocks or other substrate or surfaces to which organisms are attached.

**Primary objectives:** To provide additional protection to marine life and habitat within the state beach and to inform the public about the local marine life and need for protection.

**Existing enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. State Park rangers, lifeguards and other staff provide added on-site enforcement presence.

**Baseline and ongoing monitoring and research studies:**

**Basic Evaluation:** This is a recently established marine protected area which will need future monitoring and evaluation.

**Published and unpublished references:** None found

**Site name:** Goleta Slough State Marine Park

**Year established:** 1981

**Approximate Area:** 0.51 nm<sup>2</sup>      **Approximate Shoreline length:** not available

**Approximate Depth range (feet):** not available

**Habitat types:** Estuarine tidal lagoon and channels with salt marsh habitat

**Surrounding habitat types:** Coastal lowlands, bluffs, and beaches.

**Summary of existing regulations:** Take of all living marine resources is prohibited except the recreational hook and line take of species other than marine aquatic plants from designated areas. Boating, swimming, wading, and diving are prohibited within the MPA. No person, except department employees or designated employees of Santa Barbara Airport, City of Santa Barbara and Goleta Valley Mosquito Abatement District for the purposes of carrying out official duties shall enter this MPA and remain therein except on established trails, paths or other designated areas.

**Primary objectives:** This area was originally designated as an ecological reserve. Fish and Game Code Section 1580 (ecological reserves) states that "the policy of the state is to protect threatened or endangered native plants, wildlife, or aquatic organisms or specialized habitat types, both terrestrial and nonmarine aquatic, or large heterogeneous natural gene pools for the future use of mankind through the establishment of ecological reserves." Although the language does not specifically refer to ecological reserves in marine areas, the Fish and Game Commission has extended this policy to those areas.

**Existing enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area.

**Baseline and ongoing monitoring and research studies:** None found.

**Basic Evaluation:** Insufficient information for evaluation at this time.

**Published and unpublished references:** None found.



**Site name:** Santa Barbara Island State Marine Reserve

**Year established:** 2003

**Area:** 13.2 nm<sup>2</sup>      **Shoreline length:** 1.0 nm

**Depth range (feet):** 0 to 1,800

**Habitat types:** Exposed rocky shoreline interspersed with cobble and sand beaches in protected coves. Rocky intertidal habitat drops off sharply offshore to patchy reefs in large areas of sand. Patches of surfgrass grow on subtidal rocks at 50 to 65-foot depths. Kelp beds are sparse, and urchins and brittle stars dominate the rocky subtidal habitats. Rocky subtidal habitat at 80 to 200 feet could support populations of white abalone. Continental shelf drops to about 660 feet within 0.5 miles of shore, and continues to drop to about 1300 feet within 3 miles of shore.

**Surrounding habitat types:** Similar habitats surround Santa Barbara Island. On the West side of the island there are exposed wash rocks.

**Summary of existing regulations:** No take is allowed.

**Primary objectives:** A state marine reserve by definition may achieve one or more of the following goals:

1. Protect or restore rare, threatened or endangered native plants, animals, or habitats in marine areas;
2. Protect or restore outstanding, representative, or imperiled marine species, communities, habitats, and ecosystems;
3. Protect or restore diverse marine gene pools;
4. Contribute to the understanding and management of marine resources and ecosystems by providing the opportunity for scientific research in outstanding, representative, or imperiled marine habitats or ecosystems.

**Existing Enforcement:** Included as part of normal Department of Fish and Game marine patrol activities for this general area based on available patrol resources and level of fishery activity in the area. Channel Islands MPAs have been given a high priority for enforcement. A new, 54 foot, patrol vessel and several smaller vessels have been dedicated to Island patrols. National Park rangers are present on the island.

**Baseline and ongoing monitoring and research studies:** See Page 51 for Channel Islands Monitoring Efforts.

**Basic Evaluation:** This is a recently established marine protected area. Refer to above review of baseline and ongoing monitoring and research studies.